

Digital, Vitual - Dream or Reality? Building the Electronic Library: the OCLC Experience

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DIGITAL, VIRTUAL - DREAM OR REALITY ? BUILDING THE ELECTRONIC LIBRARY THE OCLC EXPERIENCE

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Use of electronic services within libraries helps contend with an ever expanding base of knowledge. [OCLC](#) was founded on the principles of co-operation and a shared technological resource base to meet these demands.

In 1967, the presidents of the colleges and universities in the state of Ohio founded the Ohio College Library Centre (OCLC) to develop a computerised system in which the libraries of Ohio academic institutions could share resources and reduce costs. The key focus of this through co-operative cataloguing led to the development of the world's largest bibliographic database, WorldCat. This database currently has 37 million records representing 370 languages, with over 600 million member library holding details. Its current growth is by 2 million records a year, which continues to increase exponentially. In 1971, the Ohio members of OCLC adopted changes in the governance structure that enabled libraries outside Ohio to become members and participate in the election of the Board of Trustees. In 1981, the legal name of the corporation was changed to Online Computer Library Centre (OCLC), to reflect its growth outside the state of Ohio. Today, OCLC serves more than 24,000 libraries of all types in 64 countries and territories. The OCLC community is becoming increasingly global because the information flows in libraries are increasingly world-wide. OCLC is a not-for-profit library computer service and research organisation. Its objectives are to increase availability of library resources. Its broad public purpose is to further access to the world's information.

Futurist Paul Saffo claims it generally takes about 30 years for new ideas to work their way into our culture. "Computer" technology, viewed in this time frame, is now entering the third decade of maturity. The possibility of the electronic library as a working model is now one of mind-set. As is always the case with a fundamental lifestyle change, be it personal or professional, there is the period of "wait and see" as the "changer" and the "changee" each hope the other will make the next move and signal the future direction. Each major lifestyle change is preceded by a period of considerable uncertainty. In the end, the fundamental change does not take place until there is enough critical mass moving in one direction creating the necessary momentum to pull the rest along. The same market dynamic is true for libraries. Let's briefly summarise the current library market:

- Budgets are flat to declining
- Information continues to expand exponentially
- Different media formats continue to expand
- The movement continues towards access vs ownership
- Regionalisation of information/resource sharing
- Internationalisation of co-operation and partnerships (the concept of "the global village")
- Delivery/service should be 7 days/24 hours
- Demand growth is with direct end-user access

To cope with the pressure for information from an ever-increasing demanding end-user audience, and to do this within restrictive budgets, libraries have looked to technology to aid resource sharing and distribution. The last 18 to 24 months the key component and enabler has been the Web; not since CD-ROM as a storage means was introduced has a single technology impacted on our provision of services and made us re-think our strategies for information provision. Though all of this has been driven by necessity it has allowed further opportunities for libraries to explore new possibilities, increasing the user's awareness of the library's value and enhancing their library experience.

Yet for all the technological possibilities, the basic needs of the researcher and the role of the library plays in meeting these needs remain strikingly consistent. The key elements are:

- Identification/qualification of sources
- Easy access to those sources (the faster, the better)
- To rationalise information content from diverse source
- Extrapolate, synergise relevant data
- Add unique value to the collected raw data in a suitable format
- Broadcast the "new" information

To do this effectively, what is required is that the user's door to the information world is designed to meet their unique needs, is standard regardless of resource used, and is comprehensive in that the one interface meets all needs. That geographical distances should not be a restriction to access, and format not be a barrier. For librarians the challenge remains consistent, to provide a comprehensive reference system which combines the ability to search and retrieve into a unified, cost effective service. What is required by vendors is to provide related services to allow for inter-flow between different products and other vendors offerings. In this context OCLC is very much taking an holistic approach to the reference service environment, its strategy is to provide the library end-user with seamless access from bibliographic, abstract to full-text information.

The three key components in OCLC's total solution scenario, and meeting the previously mentioned pre-conditions for the "virtual library" are:

- SiteSearch: a family of information integration software tools for libraries to build electronic library collections, to access global resources, and to make local resources available globally

- FirstSearch: offering end-users access to a variety of popular and unique abstract index databases, including library holdings information, links to OCLC's inter-library loan, a variety of online full-text and document delivery options.
- FirstSearch Electronic Collections Online: remote access to large collections of journals from a range of publishers

The building blocks for the electronic library is the SiteSearch set of software, whether the electronic library be a traditional single entity, a regional, a national or even an international concern such as in a consortia arrangement. The software developed is the software used for OCLC's own online services. It basically allows you to:

- Load commercial databases locally
- Access remote databases
- Build unique local databases
- Index those databases
- Provide one user interface to search local databases and any remote Z39.50 compatible database

The core element of the SiteSearch package is the Z39.50 Server System comprising of database loading, creation and maintenance software, search engine and Z39.50 Server. The next key element, which could be used separately, is WebZ, a specialised Web Server that allows users with Web browsers to access local or remote databases; it blends all your electronic resources into one interface to give a unified information service. The latest version offers a broadcast search capability. Within WebZ are also interface building tools to create your own interface. A final element are profiling facilities so services can be secured with authentication/verification procedures.

In essence, you can build your own interface to meet the exact needs of the community you serve and through which you can manage all your electronic resources local or remote, Web or Z39.50. Separate resources can be merged in a single search by the multicast/broadcast capabilities. New key features this year are:

Z39.50 sort allowing WebZ users to determine the order of records in result sets requested from the Z39.50 Server System.

Enhanced WebZ statistics capabilities will enable system administrators to customise their information collection and output data for use in popular writing software.

ISO 10160/10161 Inter-library loan will allow ILL requests to be verified and placed by users from their Web browsers.

Thesaurus-aided searching will help users find subject terms used in a database, expand a search to locate related terms, and determine the best term for their search.

FirstSearch led the way with end-user online searching in the market place. Launched in the USA in 1991, the latest IMI (Information Market Indicators) survey of the Online Industry currently ranks FirstSearch as the second most popular online

reference service and the number one for academic and public libraries. The end-user online age is with us.

Access is via TTY (Tele Type) Telnet session, Web or Z39.50. Latest figures show a trend towards Web/Z39.50 access with over 25% of all searches now being conducted through these media. There are currently over 60 popular databases covering the main subject areas, such as Medline, INSPEC, Geobase, RILM, etc. Also unique databases such as OCLC's Online Union Catalogue, WorldCat ; OCLC's Table of Contents Service, ArticleFirst/ContentsFirst ; and NetFirst, a qualitative electronic resource database. These databases according to the IMI survey previously mentioned rank WorldCat the third most used database in the world, ArticleFirst as sixth ; NetFirst is now rated one of the top ten Internet tools. Combined with this are links to commercial document suppliers who can deliver either hard copy via fax, courier or mail, or electronically online or by e-mail. The following suppliers are currently available on the system:

- [UMI InfoStore](#)
- [British Library Document Supply Centre](#)
- [Individual Incorporated](#)
- [ISI the Genuine Article](#)
- [Dynamic Information](#)
- [EBSCODoc](#)
- [UNCOVER](#)

Attached to many of the databases is OCLC member library holdings details and links for end-user mediated requests to OCLC's interlibrary loan system.

With the building blocks for a virtual library in place using SiteSearch technology and access to secondary sources of information through abstract and index files on FirstSearch (with links to the full-text through document supply) the next logical and synergistic progression is to offer the primary source of information - the journals themselves. OCLC was one of the first vendors to offer publishers a medium to offer their titles online through the EJO service (Electronic Journals Online). OCLC in this role was primarily a utility to the publisher, the library being a secondary concern. From experience gained in this programme and by turning our attention to the needs of our primary audience, libraries, a new service is being launched this year entitled FirstSearch Electronic Collections Online : a service designed to support the efforts of libraries to acquire, circulate, manage and archive large collections of academic journals on the Web. The key and consistent concerns for journal library management have been addressed, being namely :

- Critical mass of titles
- Aggregation (titles from a number of publishers)
- Local collection development (traditional library selection procedures maintained)
- Integration with other reference services (to follow the natural search pattern of a user)
- Archiving

Through the service users access a collection of titles which have been selected, purchased, etc. in the traditional manner via publishers or subscription agents, such as [BLACKWELLS](#), [SWETS](#), [FAXON](#), or [EBSCO](#). The titles can be browsed or interrogated via a structured citation and abstract database. Information can be viewed at three levels :

- Citation
- Abstract
- Full-text

OCLC's traditional key strength is one of storage and access. These strengths will be utilised in this service as OCLC acting as an archive for the journals, ensuring each library has access to the titles it has or is subscribing to and the date range the subscription lasted for. As the title indicates (FirstSearch Electronic Collections Online) OCLC intends to merge FirstSearch and this electronic publishing service so users move seamlessly between secondary source files and the primary data ; the first link is already in place with hypertext links from cited references in articles to their abstracts mounted in various databases in FirstSearch.

Through the use of these three integrated services packaged to meet the exact needs of the library, group or consortia, and linked with other related resources from other compatible vendors, and based upon the electronic model initially described the transition to an electronic environment if well managed is no longer a dream but is in practice a reality running alongside existing traditional library services.

Anybody who could look into a crystal ball and see where the online industry is heading would make a lot of money ; but to quote Jerry Campbell ([1](#)): *"the core mission of the profession, namely, making it possible for people to get information ; this core mission, not its means or methods, demands our full allegiance"*.

This requires that services provided by vendors recognise and address these issues in the products they offer and to realise that *"one size does not fit all"*.

References

1. Campbell, Jerry. Choosing to have a future. American Libraries, 24 June, 1993.